

REMARKS

Claims 1-22 are pending. Applicants respectfully submit no new material is presented herein.

Oath/Declaration

The oath or declaration is objected to as being defective because the Applicants named in the oath or declaration are allegedly not the same as the Applicants named in the priority document.

Applicants respectfully submit that the correct names of the Applicants of the present application are Tameo Yanagino and Yukihiro Suzuki, as indicated in the Oath/Declaration filed in the present application. Thus, the name "Tameisa Yanagino," indicated on the Japanese Patent Office, website is incorrect. Applicants have included a translation of the applicable portion of the priority document as evidence showing that the names listed both in the priority document and the Oath/Declaration are identical. As such, Applicants respectfully submit that they have fully complied with 35 U.S.C. § 119(a).

Accordingly, Applicants respectfully request withdrawal of the objection.

Claims Rejected—35 U.S.C. § 103

Claims 1-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Enterprise Modeling and Simulation: Complex Dynamic Behavior of a Simple Model of Manufacturing*, Hewlett-Packard Journal, December 1994, at 80 by Mujtaba ("Mujtaba") in view of Official Notice. Applicants respectfully traverse the rejection. Further, Applicants note that, although Claims 1-22 are pending, the Office Actions has rejected only Claims 1-21.

Claim 1 recites a method of forecasting future orders of parts for products sold to customers, including the steps of: determining a time-course record of orders with respect to each part and extracting low-order-rate parts whose order records show order rate to have fallen below a predetermined level; determining from each such order record at least one parameter indicating a characteristic of orders after the order rate fell below the predetermined level, classifying the extracted low-order-rate parts into multiple categories and using the parameter indicating the characteristic of orders to calculate for each of the multiple categories an order occurrence probability distribution; carrying out Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period; and forecasting future number of orders of the low-order-rate parts based on the calculated occurrence rate probability distributions of number of orders during the predetermined period.

Mujtaba teaches an enterprise model and simulation to predict system behavior prior to implementing a new solution at the level of business enterprise. More specifically, Mujtaba teaches an enterprise model and simulation to provide estimates of end-of-life inventory, *i.e.*, inventory remaining at the end of a product's life, to show that end-of-life inventories can exist even under ideal environmental conditions.

However, Mujtaba does *not* teach or suggest each and every feature recited in Claim 1.

Contrary to the Office Action's assertion, Mujtaba does *not* teach or suggest extracting low-order-rate parts whose order records show order rate to have fallen below a predetermined level. No portion of Mujtaba teaches or suggests any such feature. In fact, the Office Action fails to make any *prima facie* showing that such a

feature is taught or suggested by Mujtaba. Consequently, such a feature is completely absent from Mujtaba.

The Office Action also asserts that Mujtaba teaches determining from each such order record at least one parameter indicating a characteristic of orders after the order rate fell below the predetermined level. The Office Action argues that such a feature is taught on page 101 and Figures 15 and 16 of Mujtaba. However, page 101 of Mujtaba merely discusses the results of the Simple Model taught on preceding pages of the Mujtaba reference. Applicants strongly assert that neither page 101 nor any other portion of Mujtaba teaches or suggests determining a parameter indicating a characteristic of orders after order rate fell below a predetermined level, as recited in Claim 1. In fact, Mujtaba does not include any discussion, teaching, or suggestion regarding parts orders falling below a predetermined level or determining a parameter characterizing such orders. Rather, the simulation of Mujtaba is directed only to observing how changes to different variables affects end-of-life inventory at the end of a product's life, **not** after parts' orders have fallen below a predetermined level.

Further, Figure 15 of Mujtaba also does **not** teach or suggest determining from each order record at least one parameter indicating a characteristic of orders after the order rate fell below a predetermined level. Rather, Figure 15 of Mujtaba merely illustrates how a value associated with orders for different products behaves over the time period modeled by the simulation. Therefore, Figure 15 does **not** teach or suggest determining from each order record at least one parameter indicating a characteristic of orders after the order rate fell below a predetermined level, as recited in Claim 1. Similarly, Figure 16 of Mujtaba also does **not** teach or suggest determining from each order record at least one parameter indicating a characteristic of orders after the order

rate fell below a predetermined level. Rather, Figure 16 of Mujtaba only graphically illustrates how a value associated with a raw parts inventory changes over the time period of the Mujtaba simulation. Accordingly, Figure 16 also does **not** teach or suggest determining from each such order record at least one parameter indicating a characteristic of orders after the order rate fell below the predetermined level, as recited in Claim 1. Therefore, Applicants strongly submit that Mujtaba does **not** determine any type of parameter indicating a characteristic of orders after the order rate falls below a predetermined level.

Further, Applicants respectfully submit that Mujtaba does **not** teach or suggest classifying extracted low-order-rate parts into multiple categories, as recited in Claim 1. Again, the Office Action does not cite to any portion of Mujtaba, and Mujtaba, in fact, does **not** teach or suggest extracting low-order-rate parts at all. Also, Mujtaba does **not** teach or suggest classifying any parts into multiple categories. The Office action argues that classifying parts is suggested on page 101, right column, second paragraph. Applicants respectfully traverse the Office Action's assertion.

Page 101, right column, second paragraph merely states that the influence of part commonality on write-off can be quantified. However, the paragraph does not teach or suggest classifying parts for any reason. As clearly explained in page 100 of Mujtaba, part commonality simply refers to parts that are useable in different products. Moreover, after a thorough and exhaustive review of Mujtaba, Applicants were unable to find any reference to classifying parts, low-order-rate or otherwise, into multiple categories. Such a feature is completely absent from Mujtaba.

Claim 1 also recites using the parameter indicating the characteristic of orders to calculate for each of the multiple categories an order occurrence probability.

However, the Office Action has not set forth any *prima facie* showing that such a feature is taught or suggested by Mujtaba. Notwithstanding the lack of a *prima facie* showing, Applicant's respectfully submit that such a feature is completely absent from Mujtaba.

The Office Action also asserts that Mujtaba teaches carrying out Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period. The Office Action cites page 82, first column, lines 1-11. However, as explained in the Response filed October 25, 2005, Monte Carlo simulation is mentioned in Mujtaba only in the context of a completely **separate** simulation described in a **separate** publication. "Fortune [magazine] cites the example of Merck's financial team, which built a completed model and subjected it to a Monte Carlo simulation analysis." See Mujtaba at page 82, left column, lines 8-11. Therefore, Monte Carlo simulation is **not** taught as being used in the simulation described in Mujtaba nor is there any teaching, suggestion, or motivation identified in the Mujtaba reference or otherwise to incorporate a Monte Carlo Simulation into the simulation of Mujtaba. Consequently, Applicants respectfully submit that such a feature is completely absent from Mujtaba.

Regarding the feature of forecasting future number of orders of the low-order-rate parts based on the calculated occurrence rate probability distributions of number of orders during the predetermined period, the Office Action asserts that Mujtaba teaches such a feature on pages 92, 93, and 99. However, contrary to the Office Action's assertion, on page 91, right column, lines 16-20, Mujtaba expressly states that the model and simulation disclosed therein does **not** perform a forecasting process. "Since **we were not modeling the forecasting process**, we chose the simplifying

assumption that although a new forecast is generated every week, it is identical to the forecast generated the previous week.”

Therefore, Applicants respectfully submit that Mujtaba does **not** teach or suggest forecasting future number of orders of the low-order-rate parts based on the calculated occurrence rate probability distributions of number of orders during the predetermined period, and, therefore, Mujtaba does **not** teach or suggest each an every feature recited in Claim 1.

The Office Action takes official notice that it is within the level of ordinary skill in the operations research art to categorize items, such as suggested by Mujtaba categories of commonality. The Office Action also takes official notice that minimization of end-of-life inventory is a consideration in the field of product manufacturing. However, as explained above, part commonality is **not** a categorization of parts of any sort. It is merely a descriptor of parts that are usable in different products.

More importantly, while “official notice” may be relied upon in some circumstances, official notice without documentary evidence to support a conclusion in an Office Action is permissible only *rarely* when an application is under final rejection. See M.P.E.P. § 2144.03 (A). Furthermore, official notice should **only** be taken where the facts asserted to be well-known, or to be common knowledge in the art are **capable of instant and unquestionable demonstration as being well-known**. *Id.* Notice of facts beyond the record which may be taken by the examiner must be “capable of such instant and unquestionable demonstration as to defy dispute.” *In re Ahlert*, 165 U.S.P.Q. 418, 420 (CCPA 1970). It is **not** appropriate for the Office Action to take official notice of facts *without* citing a prior art reference where the facts asserted to be well-known are not capable of instant and unquestionable demonstration as being well-

know. M.P.E.P. § 2144.03(A). Further, it is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *In re Zurko*, 59 U.S.P.Q.2d 1693 at 1697 (Fed. Cir. 2001).

Here, the Office Action takes official notice without citing *any* art reference showing that the claimed facts are, indeed, well-known. Moreover, Applicants traverse that the facts asserted by the Office Action are so well-known as to be capable of instant and unquestionable demonstration as being well-known. Hence, Applicants respectfully submit that the assertions by the Office Action are improper and contrary to law.

The Office Action then proceeds to argue that, based on the facts asserted to be well-known, that analysis of low-order-rate products would be directly related to end-of-life inventory and the analysis would aid the reduction of both manufacturing business costs and waste. Consequently, the Office Action argues that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mujtaba to include Monte Carlo simulation after categorization of products by characteristics in order to predict performance of future products in the same category and to simulate the demand over the life of a product in order to minimize end-of-life inventory and the associated write-off costs and waste.

However, the Office Action does not provide any basis for such a modification nor does the Office Action identify why one would modify the model and simulation of Mujtaba as argued, especially in light of the fact that, as explained above, Mujtaba does not classify parts into multiple categories. The Office Action also fails to explain why one skilled in the art would modify the Mujtaba model to include Monte Carlo simulation

as opposed to any other type of simulation. Consequently, in the absence of such evidence, the Office Action has clearly resorted to hindsight reconstruction by arguing that it is obvious to modify the model and simulation of Mujtaba to include the features recited in Claim 1. Such an attempt is improper and contrary to law.

Further, Applicants respectfully note that the purpose of the Mujtaba model and simulation is to observe how changes to different variables in manufacturing affect inventory levels, write off at the end of a product life cycle, as well as customer satisfaction, **not** forecasting future parts orders. In fact, as explained above, the Mujtaba method and simulation does **not** forecast parts orders at all.

As shown in Figure 2 of Mujtaba, the number of orders is defined to follow a trapezoidal product order forecast, which is established **in advance** of running the simulation. In contrast, a purpose of the present invention is to actually forecast a future number of orders or demand for low-order-rate parts whose order rates have fallen below a predetermined level. As such, the model and simulation of Mujtaba is unsuited and incapable of performing the function of the claimed invention. Therefore, modifying the model and simulation of Mujtaba as asserted by the Office Action would change the principle of operation of Mujtaba and would, therefore, render Mujtaba unsatisfactory for its intended purpose. Such modifications are impermissible under M.P.E.P. § 2143.01(V) ("if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification") and M.P.E.P. § 2143.01 (VI) ("if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious").

To establish *prima facie* obviousness, all claim features must be taught or suggested by the prior art. M.P.E.P. § 2143.03. Also, there must be some suggestion or motivation, either in the references themselves or in knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. M.P.E.P. § 2142. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. M.P.E.P. § 2143.01(V). If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. M.P.E.P. § 2143.01(VI). Because Mujtaba does *not* teach or suggest each and every feature recited in Claim 1 for at least the reasons explained above and because there is no motivation to modify the model and simulation of Mujtaba as argued by the Office Action, Applicants respectfully submit that Claim 1 is not rendered obvious by Mujtaba. Accordingly, Applicants respectfully request withdrawal of the rejection.

Claims 2-6 depend from Claim 1 and, hence, incorporate each and every feature recited therein. Therefore, Applicants respectfully submit that Claims 2-6 should be deemed allowable for at least the same reasons Claim 1 is allowable, as well as for the additional subject matter recited therein.

Claim 7 recites a method of forecasting future orders of parts for products sold to customers, including the steps of: determining a time-course record of orders with respect to each part and extracting low-order-rate parts whose order records show order rate to have fallen below a predetermined level; determining from each such order record an order occurrence probability distribution as a function of time and an order

occurrence probability distribution as a function of a ratio of number of orders; carrying out Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate probability distributions of number of orders during a predetermined period; and forecasting future number of orders of the low-order-rate parts based on the calculated occurrence rate probability distributions of number of orders during the predetermined period.

Applicants respectfully submit that the arguments explained above with respect to Claim 1 are also applicable to the rejection of Claim 7. Particularly, Applicants respectfully submit that Mujtaba does **not** teach or suggest extracting low-order-rate parts whose order records show order rate to have fallen below a predetermined level. As explained above, such a feature is completely absent from Mujtaba, and the Office Action has failed to provide a *prima facie* showing that such a feature is taught or suggested by Mujtaba.

The Office Action also argues that Mujtaba teaches determining from each order record an order occurrence probability distribution as a function of time and an order occurrence probability distribution as a function of a ratio of number of orders on page 101 and Figures 15 and 16 of Mujtaba. However, no portion of the page 101 or Figures 15 and 16 teach such a feature. In fact, Applicants respectfully submit that no portion of Mujtaba includes any teaching or suggestion of an order occurrence probability distribution as a function of time or an order probability distribution as a function of a ration of number of orders. Such features are completely absent from Mujtaba.

Also, for the reasons explained above, Applicants respectfully submit that Mujtaba does **not** teach or suggest carrying out Monte Carlo simulation based on the calculated order occurrence probability distributions to determine occurrence rate

probability distributions of number of orders during a predetermined period or forecasting future number of orders of the low-order-rate parts based on the calculated occurrence rate probability distributions of number of orders during the predetermined period, as recited in Claim 7.

Applicants also traverse the official notice taken by the Office Action and the rejection of Claim 12 and 18 for the same reasons explained above. Accordingly, Applicants respectfully submit that Claims 7, 12, and 18 are not rendered obvious over Mujtaba, because Mujtaba does not teach or suggest each and every feature recited respectively therein nor is there any motivation to modify the model and simulation of Mujtaba. Therefore, Applicants respectfully submit that Claims 7, 12, and 18 should be deemed allowable.

Claims 8-11 depend from Claim 7; Claims 13-17 and 21-22 depend from Claim 12; and Claims 19-20 depend from Claim 18. Therefore, Applicants respectfully submit that Claim 8-11, 13-17, and 19-22 should be deemed allowable for at least the same reasons Claims 7, 12, and 18 are allowable, as well as for the additional subject matter recited respectively therein.

Accordingly, Applicant respectfully requests withdrawal of the rejection.

Conclusion

In view of the foregoing, reconsideration of the application, withdrawal of the outstanding objection and rejections, allowance of Claims 1-22, and the prompt issuance of a Notice of Allowability are respectfully solicited.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing docket number 107101-00036**.

Respectfully submitted,
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Enclosures: Applicable Portion of Priority Document (3 pages)
Translation of Applicable Portion of Priority Document (2 pages)

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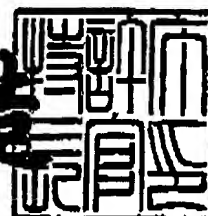
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